

Abelisaurids	A group of ceratosaurid theropods that thrived throughout Gondwana during the Middle Jurassic to Late Cretaceous; characterized by short forelimbs, small teeth, and ornamented skulls; examples: <i>Carnotaurus</i> , <i>Majungasaurus</i> , and <i>Rugops</i>
Acetabulum	Hip socket where the femur inserts; in dinosaurs, it is formed by the ilium, ischium, and pubis
Adaptation	An evolved trait that serves a specific function
Aesthenosphere	The viscous layer of the upper mantle below the lithosphere; between roughly 80 and 200 km below the Earth's surface
Aetosaurs	A group of heavily armored and herbivorous Triassic archosaurs (not dinosaurs); examples: <i>Aetosaurus</i> , <i>Desmatosuchus</i> , <i>Stagonolepis</i>
Air sac systems	Air filled chambers that store and facilitate the movement of air during respiration; well developed in birds and some dinosaurs
Airscribe	A preparation tool resembling a mini-jackhammer; used for the delicate removal of hard rock during the preparation of fossils
Alfred Wegener	German meteorologist who devised the theory of continental drift
Amber	Fossilized tree resin
Ambush predators	Predators that specialized in sit-and-wait hunting strategies
Ammonite	A kind of extinct marine cephalopod with a spiral shell; ammonites thrived from the Devonian through the Cretaceous but died out during the End-Cretaceous Extinction

Amniotes	A group of tetrapods that lay eggs equipped with a special water-tight membrane layer called an amnion
Anapsids	A group of amniotes that have no skull fenestra; turtles are a modern example; note: the validity of this clade is contested among paleontologists
Ancestral	Primitive; an ancestral trait is one that was present in the ancestors of a group
Ankylosaurs	Heavily-armored quadrupedal ornithischian dinosaurs; examples: <i>Ankylosaurus</i> , <i>Edmontonia</i> , <i>Polacanthus</i>
Antorbital fenestra	Opening in the skull in front of the orbits; characteristic of archosaurs
Archaea	A group of single celled organisms that lack cell nucleuses and membrane-bound organelles; the oldest fossil evidence of archaea dates to 3.8 billion years ago
Archean Eon	Division of the Geologic Timescale from 4 to 2.5 billion years ago; during this time, the atmosphere likely lacked free oxygen and stromatolites first appeared
Archosauromorpha/ Archosauromorphs	A group of diapsids that includes archosaurs and many more primitive groups; first evolved during the late Permian
Archosaurs	A group of advanced archosauromorph diapsids that includes crocodiles, dinosaurs, birds, and many extinct groups; characterized by mandibular and antorbital fenestrae
Arthropods	Invertebrate with an exoskeleton, segmented bodies, and jointed appendages; account for over 80% of all known living animal species
Articulations	Locations where two or more bones connect
Aves	The clade containing birds

Bacteria	A large group of microorganisms whose cells lack nuclei; bacteria are thought to be among the oldest forms of life and to have first evolved about 4 billion years ago
Bearpaw Formation	A marine shale formation exposed in western North America; formed during the time of the Western Interior Cretaceous Seaway (75-72 million years ago); common fossils include ammonites, shellfish, fish, and marine reptiles
Binocular vision	A special form of sight where the field of vision of two forward pointing eyes overlap, granting depth perception; common among flying and arboreal animals
Binomial name	The two part scientific name of a species; composed of a genus name and a species epithet; written in italics
Biological species concept	A group of organisms that can interbreed
Bipedal	Walks on two legs
Bivalves	Group of marine and freshwater mollusks with hinged two-part shells and a plane of symmetry that runs along the hinge line; examples: clams, oysters, scallops
Bonebed	A deposit of fossil bones, usually in large quantities
Brachiopods	Group of marine organisms with hinged two-part shells and a plane of symmetry that runs perpendicular to the hinge line
Brachiosaurids	A group of sauropod dinosaurs with longer forelimbs than hindlimbs; lived from the Late Jurassic to Early Cretaceous; examples: <i>Brachiosaurus</i> , <i>Europasaurus</i> , <i>Giraffatitan</i>
Braincase	Part of the skull that encloses the brain
Branches	Lines on a cladogram that show how descendants from a

common ancestor diverged to become unique species

Burgess Shale

Fossil rich deposit in British Columbia, Canada; famous for its exceptional preservation of 505 million years old (Cambrian) marine organisms

Cambrian Explosion

The rapid appearance of most of the major animal groups around 540 million years ago

Cambrian Period

Division of the Geologic Timescale from 542 to 490 million years ago

Camouflage

Cryptic adaptations that help an animal to blend in with its environment

Carboniferous Period

Division of the Geologic Timescale from 355 to 300 million years ago

Carcharodontosaurids

A group of theropod dinosaurs with teeth that somewhat resemble those of modern sharks; lived during the Late Jurassic to Late Cretaceous; examples: *Giganotosaurus*, *Carcharodontosaurus*, *Concavenator*

Carl Linnaeus

18th century Swedish naturalist who created binomial nomenclature

Carnivorous

Meat-eater; feeds on other animals

Cast

A type of fossil that forms when a natural mold becomes filled with sediment

Caudal vertebrae

Vertebrae in the tail

Caudofemoralis

Hind limb retractor muscle positioned at the tail base (absent in mammals and some birds)

Cellulose

Tough organic compound that forms plant cell walls

Cenotes

Sinkhole formed from the collapse of limestone; a circular arrangement of cenotes mark the rim of the Chixulub crater

Cenozoic Era	Division of the Geologic Timescale from 66 million years ago to the present; often called “The Age of Mammals”
Ceratopsians	Group of ornithischian dinosaurs characterized by large beaks, facial horns, and head frills; lived during the Cretaceous; examples: <i>Triceratops</i> , <i>Centrosaurus</i> , <i>Psittacosaurus</i>
Ceratosaur s	Group of theropod dinosaurs not closely related to birds; lived during the Jurassic to Cretaceous; examples: <i>Ceratosaurus</i> , <i>Carnotaurus</i> , <i>Limusaurus</i>
Cervical vertebrae	Vertebrae in the neck
Champsosaurs	Group of semi-aquatic diapsids with elongated snouts; lived during the Middle Jurassic to Miocene
Character matrix	Dataset of anatomical details used in a phylogenetic analysis
Character states	Alternative forms (often presence or absence) of anatomical features recorded in a character matrix
Chixulub impactor	The meteor that formed the Chixulub crater; estimated to have been at least 10 kilometers in diameter
Clavicle	Collarbone; part of the pectoral girdle
Coal	A combustible sedimentary rock that forms from dead vegetation (usually from wetland forests) that are deeply buried, heated, and pressurized
Coelurosaurian theropods	A group of theropod dinosaurs closely related to and including birds; examples: <i>Compsognathus</i> , <i>Tyrannosaurus</i> , <i>Velociraptor</i>

Common ancestor	The original species from which two or more new species arose
Comparative morphology	The study of physical features across various species
Convection currents	Currents that form as hotter materials rise and cooler ones sink
Convergent feature/evolution	Similar structures that independently evolve in unrelated species because the two species are faced with similar survival challenges
Coprolites	Fossilized fecal remains
Crests	Large cranial ornamentations without a combat function
Cross-section	The surface that is exposed by making a straight cut through something
Crust	The outermost solid layer of the Earth; between 5 km to 25 km thick
Cryptic species	Different species that look the same but do not interbreed
Cube square law/square cube law	A mathematical principle that explains the discrepancy in the relative change of surface area and volume as an object grows or shrinks; as the size of an object increases its volume increase by a factor of three, while its surface area increase by only a factor of two
Cursorial	Adapted for proficient running
Cyanobacteria	Group of bacteria that generate energy from photosynthesis; formed stromatolites beginning in the Archean
Cynodonts	A group of synapsids that led to modern day mammals; first evolved in the Late Permian

Database	An organized collection of data
Deccan Traps	A large deposit of volcanic rocks in India; formed from massive volcanic eruptions 60 to 68 million years ago
Deep Time	The concept of geologic time
Dental battery	Dense arrangement of teeth found in the jaws of hadrosaurs and ceratopsians
Dentine	Hard tissue that helps to form teeth
Derived	A new trait that did not exist in an organism's ancestor
Dermis	Middle layer of skin
Developmental biology	The study of the process through which organisms grow and develop; focusses on understanding cell growth, differentiation, and the formation of tissues, organs, and higher anatomy
Devonian Period	Division of the Geologic Timescale from 420 to 355 million years ago
Diapsida/Diapsids	A group of amniotes with two pairs of skull fenestra: supratemporal and laterotemporal fenestrae; includes crocodiles, lizards, snakes, tuataras, dinosaurs, birds, and many extinct groups
Dicynodonts	A group of herbivorous synapsids with characteristic tusks and beaks; first evolved in Permian and thrived during the Triassic
Dinosaur Park Formation	Geologic formation in western Canada with a dense concentration of dinosaur skeletons; formed in a lowland fluvial system between 76 and 74 million years ago

Dinosauria	A group that contains all dinosaurs, including birds
Dinosauromorphs	A group that contains all dinosaurs and the closely related more-primitive ancestors of dinosaurs
Dip-nets	Throat pouch, used to store prey when hunting
Diplodocids	A group of sauropod dinosaurs with long necks and long "whip-like" tails; lived during the Middle to Late Jurassic; examples: <i>Apatosaurus</i> , <i>Diplodocus</i> , <i>Supersaurus</i>
Disarticulate	A skeleton that is separated into its various components
DNA	Genetic-code-containing molecule; deoxyribonucleic acid
Dorsal vertebrae	Vertebrae in the back
Dromeosaurs	A group of theropods with an enlarged and sickle-shaped claw on each foot and stiffened tails; lived during the Cretaceous period; examples: <i>Velociraptor</i> , <i>Utahraptor</i> , <i>Deinonychus</i>
Durophagy	The eating behavior of animals adapted to crush bones
Echinoderms	Group of invertebrates with radial symmetry as adults; examples: starfish/seastars, sea urchins, sea cucumbers
Ectotherms	Animals that do not generate their own internal heat and must regulate their body temperature through behavior; commonly called "cold-blooded animals"
Ediacaran Period	Division of the Geologic Timescale from 635 to 541 million years ago; The oldest fossil evidence of multicellular life comes from this time
Embryo	Unborn organism in the early stages of development

Enamel	Tissue that forms the hard outer layer of a tooth
End-Cretaceous Extinction	Mass extinction and the end of the Cretaceous period (65.6 million years ago); generally thought to have resulted primarily from a huge meteorite impact; an estimated 75% of animal and plant species went extinct, including all non-avian dinosaurs
Endotherms	Animals that generate their own internal body heat and can control their body temperature metabolically; commonly called “warm-blooded animals”
Enantiornithines	Extinct group of primitive birds that retained teeth and clawed hands but otherwise looked similar to modern birds
Epidermis	Outer layer of the skin
Epithet	Second part of a species binomial name; also called the species epithet
Erect stance	Stance in which the limbs are held directly under the body
Eroded/erosion	The process by which rock is worn by wind, water, and other natural processes
Eumelanosomes	Organelles containing color in feathers
Exoskeleton	The external skeleton of an arthropod
Extant	Species currently alive
Femur	Upper leg bone
Fenestrae	Opening in the skull that does not house a major sensory organ

Fibula	One of the two bones between the knee and ankle; usually the smaller of the two
Finite element analysis	A digital analysis that reports a virtual objects stress to an applied force
Formation	A body of rock composed of a certain rock type or series of types
Fossil	Remains, impressions, or other evidence of ancient life
Frill	The backwards protruding structure formed by the expanded parietal and squamosal skull bones of ceratopsians; also called the “neck shield”
Frugivore	Herbivore that is specialized to eat fruit
Gastric mill	Muscular pouch in the digestive tract near the stomach that holds swallowed stones; as the muscles rub the stones against one another, food passing through the mill is ground up, performing the same function as a set of chewing teeth
Genus	Taxonomic rank above species
Geographic distribution	Where globally a particular thing exists
Geologic Time Scale	A standardized system that divides the history of the Earth into discrete temporal units
Gigantothermy	The capacity for large ectothermic animals to maintain a relatively constant body temperature because of their low ratio of surface area to volume
Gondwana	Former supercontinent composed on South America, Australia, Africa, Antarctica, Madagascar, and India
Gorgonopsids	Group of carnivorous synapsids characterized by sets of elongated fangs; lived from the Middle to Late Permian

GPS	Global Positioning System; uses satellites to provide location information
Graviportal limbs	Limbs and feet that are columnar and adapted to support great weight
Gulf Stream	An ocean current composed of warmed water that flows from the Gulf of Mexico to Europe
Hadeon Eon	Division of the Geologic Timescale from 4.6 billion to 4 billion years ago; the first geologic eon
Hadrosaurs	Advanced group of ornithopod dinosaurs with broad beaks and dental batteries; commonly called “duck-billed dinosaurs”; examples: <i>Edmontosaurus</i> , <i>Maiaasaura</i> , <i>Parasaurolophus</i>
Herbivorous	Eats plants
Hesperornithiformes	Group of toothed Mesozoic birds that were adapted to an aquatic life; most were flightless; lived during the Late Cretaceous
Histology	The study of bone microstructure as it relates to bone growth
Holotype	Specimen used to describe and name a new species
Humerus	Upper arm bone between the shoulder and elbow
Igneous rocks	Rocks that form from the cooling and solidification of magma or lava; one of the three basic rock types
Iguanodonts	Group of ornithopod dinosaurs characterized by spiked thumb claws; lived during the Late Jurassic and Cretaceous; examples: <i>Iguanodon</i> , <i>Camptosaurus</i> , <i>Ouranosaurus</i>

Incubation	The process of warming eggs; typically through brooding (sitting on eggs)
Inference	Conclusion derived logically from information or an assumption that is presumed to be true
Inner core	The innermost layer of the Earth; a solid mass composed of iron and nickel
Insectivore	An animal that is specially adapted to eat insects
Integumentary structures	Structures formed from the skin such as hair, scales, and feathers
Interbreed	Reproduce with one another
Iridescence	Property of a surface that causes it to appear to be different colors when viewed at different angles
Iridium	An element that is rare on Earth but common in meteorites
Isotope ratio	The ratio of a naturally occurring radioactive isotope and its decay products
Jacket	Protective and supporting covering for a fossil; generally made of burlap and plaster and used to protect fossils when being transported out of the field
Jurassic Period	Division of the Geologic Timescale from 201 to 145 million years ago; the second period of the Mesozoic Era
Keratin	Fibrous structural protein that is flexible but relatively durable; major component of hair, nails, scales, and feathers
Laterotemporal fenestra	Paired fenestra on the side of the skull, behind the orbit
Laurasia	Former super continent comprised of Asia, Europe, and North America

Lepidosauromorpha/ Lepidosauromorphs	Group of non-archosaur diapsids that includes lizards, snakes, tuatara, and many extinct groups
Limb girdles	Arrangements of bone that connect the limbs to the body
Limestone	A kind of sedimentary rock that is typically composed of skeletal fragments from marine organisms
Lines of Arrested Growth (LAGS)	A dark band visible in a histological cross-section of a bone that formed during a time when the bone was not growing; LAGS are generally assumed to form annually in response to regular seasonal periods of food scarcity
Lithosphere	Ridged outermost layer of the Earth; composed of the crust and the upper portion of the mantle
Locomotion	Movement; how an animal walks and runs
Long-bone alignment	The degree to which the axes of long bones (usually limb bones) share a similar orientation within a given deposit; in a fluvial context, long-bone alignment is often taken as an indicator of current direction and force
Mandibular fenestra	Fenestra in the lower jaws of archosaurs
Mantle	Highly viscous layer of the Earth; layer between the crust and the outer core; roughly 2900 km thick
Marrow cavities	The hollow spaces inside bones that are filled with marrow
Marsupial mammals	Mammals that generally give birth to underdeveloped offspring, which then continue to develop in a pouch; examples: kangaroos, koalas, wombats
Mass spectrometer	A device used to analyze the masses of the atoms that comprise a material and thereby determine its elemental composition

Medullary bone	Bone that stores calcium in preparation for laying eggs
Mesozoic Era	Division of the Geologic Timescale from 252 to 66 million years ago; contains the Triassic, Jurassic, and Cretaceous periods; during this time dinosaurs, birds, and mammals evolved; commonly called “the Age of Dinosaurs”
Metabolism	The life-sustaining chemical processes within cells
Metacarpals	Bones in the wrist
Metamorphic	A type of rock that forms through the transformation of other rocks under extreme heat and pressure; one of the three basic rock types
Metatarsals	Bones in the foot
Meteor	The visible light streak from a meteoroid entering Earth's atmosphere
Meteorites	Pieces of debris that originated in outer space and that survive an impact with Earth
Mid-ocean ridge	An underwater mountain system that generally includes a central rift valley that forms where two tectonic plates are separating
Mold	Cavity that is left after an organism or a portion of an organism; this type of fossil preserves the shape of the organism
Mollusks	Highly diverse group of invertebrates, many of which possess shells but lack more complex skeletons; examples: snails, clams, squids, sea slugs
Monocular vision	Vision in which the field of vision of one eye does not significantly overlap with the field of vision of the other eye; this grants a wider total field of view but limits depth perception; common among prey species

Morphological species concept	Concept that defines organisms that look different as belonging to different species and organisms that look the same as belonging to the same species
Mosasaurs	A group of extinct lepidosaurs that were highly adapted to a marine life; evolved in the Late Cretaceous
Mudstone/shale	A type of fine-grained sedimentary rock that forms in slow moving water; typical of a lake or floodplain deposit
Multituberculates	Group of mammals that evolved and thrived during the Mesozoic and persisted into the Paleogene; skulls and teeth were similar to those of modern rodents
Muscle attachment points	Areas of a bone where muscles attach
Nares	Holes in the skull through which the nasal passages run
Nautiloids	Group of marine cephalopods with chambered shells
Newton	Unit of force equal to the force that would give a one kilogram mass an acceleration of one meter per second per second
Nodes	The points on a cladogram that indicate where two lineages shared a common ancestor
Non-avian dinosaurs	All dinosaurs except for birds
Nucleus	Membrane bound organelle that contains DNA
Oldman Formation	Geologic formation in western North America that formed 78-77 million years ago; the oldest formation exposed in Dinosaur Provincial Park
Omnivore	A animal that is adapted to eat both plants and animals
Ontogenetic changes	Anatomical changes that occur during an individual's life

time

Orbits

Eye socket

Ordovician Period

Division of the Geologic Timescale from 490 to 440 million years ago; during this time the first jawed fish evolved; ended with a mass extinction

Ornithischia

A group of herbivorous dinosaurs characterized by a prepubic bone and a pubis that projects backwards; commonly called "bird-hipped" dinosaurs; examples: *Triceratops*, *Stegosaurus*, *Iguanodon*

Ornithomimids

Group of herbivorous and possibly omnivorous theropod dinosaurs characterized by long legs and short beaks; commonly called "ostrich-mimic" dinosaurs; first evolved in the Cretaceous; examples: *Gallimimus*, *Struthiomimus*, *Ornithomimus*

Ornithopods

Group of bipedal or facultatively bipedal ornithischian dinosaurs; examples: *Iguanodon*, *Parasaurolophus*, *Hypsilophodon*

Osteoderms

Bony armor that forms in the skin

Osteocyte

Bone cell

Outer core

Layer of the Earth composed of molten iron and nickel; roughly 2270 km thick

Overburden

The earthen debris that overlies a bonebed

Oviducts

Fleshy tubes through which eggs pass when laid

Oviraptorids

Group of herbivorous and possibly omnivorous theropod dinosaurs characterized by beaks and feather tail fans; evolved during the Cretaceous; examples: *Oviraptor*, *Gigantoraptor*, *Caudipteryx*

Pachycephalosaurs	Group of bipedal ornithischian dinosaurs characterized by thick and often domed skulls; examples: <i>Homalocephale</i> , <i>Pachycephalosaurus</i> , <i>Stegoceras</i>
Paleontologist	A scientist who studies paleontology
Paleontology	The science of prehistoric life
Paleozoic Era	Division of the Geologic Timescale from 542 to 252 million years ago
Pangaea	Supercontinent, comprised of all the Earth's major landmasses, that formed around 300 million years ago and began breaking up around 200 million years ago
Panthalassa	The giant ocean that surrounded Pangaea
Paratype/lectotype	A specimen that helps to define a given species; there can be multiple such specimens
Parsimony/Occam's Razor	The reasoning that the simplest of two or more explanations is most probably correct; originally expressed by the philosopher William of Ockham; commonly summarized as "all other things being equal, the simplest answer is usually the right one"
Pectoral girdle	Arrangement of bones that connects the forelimbs to the body
Pelvic girdle	Arrangement of bones that connects the hindlimbs to the body
Permian Period	Division of the Geologic Timescale from 300 to 252 million years ago; ended in a mass extinction
Permineralization	Fossilization processes in which minerals are carried by water into the internal spaces of an organism and then solidify

Permo-Triassic Extinction	The single largest mass extinction event in Earth history; occurred 252 million years ago and wiped out an estimated 96% of all marine life and 70% of all terrestrial life
Phalanges	Bones in the fingers and toes
Phanerozoic Eon	Division of the Geologic Timescale from 542 million years ago to the present
Phylogenetic analysis	Analysis of a character matrix that creates a "family tree" or cladogram
Phylogenetic tree/cladogram	Diagram that visually depicts the pattern of evolutionary relationships among a group of organisms
Phytoplankton	Photosynthetic plankton
Phytosaurs	Early semi-aquatic carnivorous archosaurs with armored backs and elongated snouts that resemble modern crocodiles; lived during the Late Triassic
<i>Pikaia</i>	Thought to be one of the oldest known animals with a notochord; lived during the Cambrian
Piscivore	Animal specially adapted to eat fish
Placentals	A group of mammals with placentas that give birth to well-developed young; examples: bats, humans, whales
Planetoid	Large astronomical object in orbit around a sun that is smaller than a true planet
Plastic deformation	Taphonomic alteration to the shape of a fossil that does not result in fracture or breakage; usually the result of prolonged exposure to pressure
Plate tectonics	Scientific theory that explains and describes the motion of the Earth's lithosphere

Plesiosaurs	A group of diapsids specially adapted to a marine life; lived during the Early Jurassic to Late Cretaceous; examples: <i>Dolichorhynchops</i> , <i>Elasmosaurus</i> , <i>Kronosaurus</i>
Poposaurioids	Group of rauisuchians that lived during the Late Triassic; examples: <i>Arizonasaurus</i> , <i>Effigia</i> , <i>Poposaurus</i>
Prementary	Bone that forms the beak in the lower jaws of ornithischian dinosaurs
Perforated acetabulum	Hip socket that is a complete hole (like a doughnut); characteristic of dinosaurs
Preservation styles	Ways in which an organism can be preserved as a fossil
Prestosuchids	Group of large carnivorous archosaurs that lived during the Middle and Late Triassic; examples <i>Decuriasuchus</i> , <i>Prestosuchus</i> , <i>Saurosuchus</i>
Principle of Superposition	The basic principle of stratigraphy that, when sedimentary layers are horizontal, the oldest layer will be on bottom with progressively younger layers above it
Proterozoic Eon	Division of the Geologic Timescale from 2.5 billion years to 542 million years ago
Proto-mammals	Group of earliest relatives and ancestors of mammals
Pseudosuchians	Group of archosaurs that includes modern crocodilians and all archosaurs more closely related to crocodilians than to birds; "crocodile-line" archosaurs
Pterosaurs	Group of flying archosaurs closely related to dinosaurs; lived during the Late Triassic to the Cretaceous; the first group of vertebrates to evolve flight; commonly called "pterodactyls"; examples: <i>Pteranodon</i> , <i>Quetzalcoatlus</i> , <i>Rhamphorhynchus</i>
Quadrupedal	Walks on four legs

Quarry	An open pit where a bonebed is exposed
Radioactive isotopes	Variations of an element that differ in the number of neutrons; has a specific half-life or rate of decay
Radiometric dating	The use of isotopic ratios to calculate age of a rock
Radius	One of two bones in the forearm between the wrist and elbow, usually the smaller of the two
Rauisuchids	Group of carnivorous Triassic archosaurs; examples: <i>Fasolasuchus</i> , <i>Heptasuchus</i> , <i>Postosuchus</i>
Recurved	Strongly curved/hooked
Resorption	When bone is broken down while an animal is alive and the minerals are transferred back into the blood
Retractable claw	A claw that can be pulled back
RNA	Single-stranded chain of nucleotides that is critical to variety of functions surrounding the expression of genetic codes; ribonucleic acid
Rule of Priority	The first name formally given to an organism is the one that stands
Sacral vertebrae	Vertebrae in the sacrum/pelvis
Sandstone	A type of sedimentary rock composed of sand-sized grains; typically forms in fast moving water such as in rivers, or in alluvial fans, lakes, deserts, beaches, or tidal flats
Sarcopterygians	A group of bony fish with muscular lobed fins; it is from this group that tetrapods evolved, so all tetrapods are technically considered to be a part of this group; examples: coelacanths, lungfish, humans

Saurischia	A group of dinosaurs characterized by a pubis that points forward, commonly called “the lizard-hipped” dinosaurs; examples: <i>Apatosaurus</i> , <i>Plateosaurus</i> , <i>Tyrannosaurus</i>
Sauropodomorphs	A group of saurischian dinosaurs characterized by elongated necks; includes sauropods and prosauropods; examples: <i>Apatosaurus</i> , <i>Brachiosaurus</i> , <i>Plateosaurus</i>
Sauropods	A group of quadrupedal herbivorous saurischian dinosaurs characterized by elongated necks and large size; commonly called “the long-neck” dinosaurs; examples: <i>Apatosaurus</i> , <i>Argentinosaurus</i> , <i>Brachiosaurus</i>
Scapula	Shoulder blade
Scavengers	Animal specially adapted to find and eat dead animals
Sedimentary	A type of rock that forms from particles of other rocks that have become cemented together; one of the three basic rock types
Serrations	Small projections on the blade of a tooth that form a saw-like cutting edge
Sexual dimorphism	Differences between males and females of a given species
Shared derived character/synapomorphy	Characteristic common to the members of a phylogenetic group and not present in more primitive ancestral species outside the group; character that defines a phylogenetic group
Shed teeth	Teeth that have fallen out after their roots have been reabsorbed; typically teeth are shed as new replacement teeth grow in
Shocked quartz	Quartz whose internal structure has deformed due to intense pressure; known to be produced from the shockwaves of atomic blasts and meteorite impacts

Silurian Period	Division of the Geologic Timescale from 440 to 420 million years ago
Social predators	Predators that hunt in a group
Solitary hunters	Predators that hunt alone
Species	A group of organisms that can interbreed and produce fertile offspring
Sponges	A group of primitive sessile marine animals with porous bodies
Sprawling stance	Stance in which the limbs project sideways from the body at an angle, rather than straight down
Stagnant	Non-moving water
Stegosaurs	A group of quadrupedal ornithischian dinosaurs characterized by tall bony plates along the midline of the back and boney spikes on the end of the tail; commonly called “the spike-tailed” dinosaurs; examples: <i>Stegosaurus</i> , <i>Kentrosaurus</i> , <i>Miragaia</i>
Stratigraphic column	Geologic diagram that illustrates a sequence of rock layers, with the oldest at the bottom and the youngest at the top; often illustrates the thicknesses of each layer
Stratigraphy	Branch of geology that studies rock layers
Subduction	The movement of one tectonic plate under another at a convergent plate boundary; typically an oceanic plate moving under a continental plate
Supernova	A highly energetic explosion of a star
Supratemporal fenestra	Fenestra on the top of the skull; found in diapsids

Surface area	The two dimensional area of a surface
Synapsids	A group of amniotes with only one pair of fenestra; includes mammals and their extinct close relatives
Taphonomy	The study of how organisms decay and become fossilized
Taxonomy	The science of classifying organisms
Tektites	Earthly debris that was superheated by a meteorite impact and cooled to form a natural glass
Terrestrial	Lives on land
Tetrapods	A group of vertebrates that all descended from a common ancestor with four-limbs; examples: amphibians, reptiles, mammals, dinosaurs
Therizinosaurus	A group of herbivorous and possibly omnivorous theropod dinosaurs characterized by long necks, elongated forelimbs, elongated hand claws, and four forward-directed toes; lived during the Cretaceous; examples: <i>Therizinosaurus</i> , <i>Segnosaurus</i> , <i>Falcarius</i>
Theropods	A group of bipedal saurischian dinosaurs; includes birds, all carnivorous dinosaurs, and some herbivorous dinosaurs; examples: <i>Spinosaurus</i> , <i>Tyrannosaurus</i> , <i>Velociraptor</i>
Tibia	One of two bones in the lower leg, between the knee and ankle; usually the larger of the two
Titanosaurs	Group of advanced sauropod dinosaurs; lived during the Late Jurassic to Late Cretaceous; globally distributed but most abundant in Gondwana; examples: <i>Argentinosaurus</i> , <i>Saltosaurus</i> , <i>Alamosaurus</i>
Triassic Period	A division of the Geologic Time Scale from 252 to 200 million years ago; first period in of the Mesozoic Era; the start and end are marked by mass extinctions; dinosaurs

and mammals first appeared in the Late Triassic

Trilobites	Extinct group of marine arthropods; first evolved during the Cambrian and died out at the End-Permian Mass Extinction
Ulna	One of two bones in the forearm, between the elbow and wrist; usually the larger of the two
Uniform	Term that describes a sedimentary rock comprised of particles of the same size
Vertebrae	Bones that connect to form the spinal column; commonly called “back bones”
Vertebrata/Vertebrates	A group of animals that possess vertebrae
Vigilance	Alertness to potential predators
Yucatan Peninsula	Peninsula in southeast Mexico; separates the Gulf of Mexico from the Caribbean Sea